SECTION 3
SAMPLE CONTROL, FIELD RECORDS, AND DOCUMENT CONTROL

SECTION OBJECTIVES:

- Present standard procedures for sample identification.
- Present standard procedures for sample control.
- Present standard procedures for chain-of-custody.
- Present standard procedures for maintenance of field records and document control.

3.1 Introduction

All sample identification, chain-of-custody records, receipt for sample forms, and field records should be recorded with waterproof, non-erasable ink. If errors are made in any of these documents, corrections should be made by crossing a single line through the error and entering the correct information. All corrections should be initialed and dated. If possible, all corrections should be made by the individual making the error.

If information is entered onto sample tags, logbooks, or sample containers using stick-on labels, the labels should not be capable of being removed without leaving obvious indications of the attempt. Labels should never be placed over previously recorded information. Corrections to information recorded on stick-on labels should be made as stated above.

Following are definitions of terms used in this section:

Project Leader:	The individual with overall responsibility for conducting a specific field investigation in accordance with this SOP.
Field Sample Custodian:	Individual responsible for maintaining custody of the samples and completing the sample tags, Chain-of-Custody Record, and Receipt for Sample form.
Sample Team Leader:	An individual designated by the project leader to be present during and responsible for all activities related to the collection of samples by a specific sampling team.
Sampler:	The individual responsible for the actual collection of a sample.
Transferee:	Any individual who receives custody of samples subsequent to release by the field sample custodian.
Laboratory Sample Custodian:	Individual or their designee(s) responsible for accepting custody of samples from the field sample custodian or a transferee.

One individual may fulfill more than one of the roles described above while in the field.

3.2 Sample and Evidence Identification

PERFORMANCE OBJECTIVES:

- To accurately identify samples and evidence collected.
- To adequately insure that chain-of-custody was maintained.

3.2.1 Sample Identification

The method of sample identification used depends on the type of sample collected. Samples collected for specific field analyses or measurement data are recorded directly in bound field logbooks or recorded directly on the Chain-of-Custody Record, with identifying information, while in the custody of the samplers. Examples include pH, temperature, and conductivity. Samples collected for laboratory analyses are identified by using standard sample tags (Figure 3-1) which are attached to the sample containers. In some cases, particularly with biological samples, the sample tags may have to be included with or wrapped around the samples. The sample tags are sequentially numbered and are accountable documents after they are completed and attached to a sample or other physical evidence. The following information shall be included on the sample tag using waterproof, non-erasable ink:

- project number;
- field identification or sample station number;
- date and time of sample collection;
- designation of the sample as a grab or composite;
- type of sample (water, wastewater, leachate, soil, sediment, etc.) and a very brief description of the sampling location;
- the signature of either the sampler(s) or the designated sampling team leader and the field sample custodian (if appropriate);
- whether the sample is preserved or unpreserved;
- the general types of analyses to be performed (checked on front of tag); and
- any relevant comments (such as readily detectable or identifiable odor, color, or known toxic properties).

Samples or other physical evidence collected during criminal investigations are to be identified by using the "criminal sample tag." This tag is similar to the standard sample tag shown in Figure 3-1, except that it has a red border around the front and a red background on the back of the tag. If a criminal sample tag is not available, the white sample tag may be used and should be marked "Criminal" in bold letters on the tag.

If a sample is split with a facility, state regulatory agency, or other party representative, the recipient should be provided (if enough sample is available) with an equal weight or volume of sample (see Section 2.3.6). The split sample should be clearly marked or identified with a stick-on label.

Tags for blank or duplicate samples will be marked "blank" or "duplicate," respectively. This requirement does not apply to blind-spiked or blank samples which are to be submitted for laboratory quality control purposes. Blind-spiked or blank samples shall not be identified as such. This identifying information shall also be recorded in the bound field logbooks and on the Chain-Of-Custody Record as outlined in Sections 3.3 and 3.5.

3.2.2 Photograph Identification

Photographs used in investigative reports or placed in the official files shall be identified on the back of the print with the following information:

- A brief, but accurate description of what the photograph shows, including the name of the facility or site and the location.
- The date and time that the photograph was taken.
- The name of the photographer.

When photographs are taken, a record of each frame exposed shall be kept in the bound field logbook along with the information required for each photograph. The film shall be developed with the negatives supplied uncut. The field investigator shall then enter the required information on the prints, using the photographic record from the bound field logbook, to identify each photograph. For criminal investigations, the negatives must be maintained with the bound field logbook in the project file and stored in a secured file cabinet.

3.2.3 Identification of Physical Evidence

Physical evidence, other than samples, shall be identified by utilizing a sample tag or recording the necessary information on the evidence. When samples are collected from vessels or containers which can be moved (drums for example), mark the vessel or container with the field identification or sample station number for future identification, when necessary. The vessel or container may be labeled with an indelible marker (e.g., paint stick or spray paint). The vessel or container need not be marked if it already has a unique marking or serial number; however, these numbers shall be recorded in the bound field logbooks. In addition, it is suggested that photographs of any physical evidence (markings, etc.) be taken and the necessary information recorded in the field logbook.

Occasionally, it is necessary to obtain recorder and/or instrument charts from facility owned analytical equipment, flow recorders, etc., during field investigations and inspections. Mark the charts and write the following information on these charts while they are still in the instrument or recorder :

- Starting and ending time(s) and date(s) for the chart.
- Take an instantaneous measurement of the media being measured by the recorder. The instantaneous measurement shall be entered at the appropriate location on the chart along with the date and time of the measurement.
- A description of the location being monitored and any other information required to interpret the data such as type of flow device, chart units, factors, etc.

All of the above information should be initialed by the field investigator. After the chart has been removed, the field investigator shall indicate on the chart who the chart (or copy of the chart) was received from and enter the date and time, as well as the investigator's initials.

Documents such as technical reports, laboratory reports, etc., should be marked with the field investigator's signature, the date, the number of pages, and from whom they were received. Confidential documents should not be accepted, except in special circumstances such as process audits, hazardous waste site investigations, etc.

3.3 Chain-of-Custody Procedures

PERFORMANCE OBJECTIVE:

- To maintain and document the possession of samples or other evidence from the time of collection until they or the data derived from the samples are introduced as evidence.

3.3.1 Introduction

Chain-of-custody procedures are comprised of the following elements; 1) maintaining sample custody and 2) documentation of samples for evidence. To document chain-of-custody, an accurate record must be maintained to trace the possession of each sample from the moment of collection to its introduction into evidence.

3.3.2 Sample Custody

A sample or other physical evidence is in custody if:

- it is in the actual possession of an investigator;
- it is in the view of an investigator, after being in their physical possession;
- it was in the physical possession of an investigator and then they secured it to prevent tampering; and/or
- it is placed in a designated secure area.

3.3.3 Documentation of Chain-of-Custody

Sample Tag

A sample tag (Figure 3-1) should be completed for each sample using waterproof, non-erasable ink as specified in Section 3.2.

Sample Seals

Samples should be sealed as soon as possible following collection utilizing the EPA custody seal (EPA Form 7500-2(R7-75)) shown in Figure 3-2. A similar seal is used for samples collected during criminal investigations, however, the seal is red. Though not required, red custody seal is preferred for sealing samples collected during criminal investigations. The sample custodian should write the date and their signature or initials on the seal. The use of custody seals may be waived if field investigators keep the samples in their custody as defined in Section 3.3.2 from the time of collection until the samples are delivered to the laboratory analyzing the samples.

Chain-of-Custody Record

The field Chain-Of-Custody Record (Figure 3-3) is used to record the custody of all samples or other physical evidence collected and maintained by investigators. All physical evidence or sample sets shall be accompanied by a Chain-Of-Custody Record. This Chain-Of-Custody Record documents transfer of custody of samples from the sample custodian to another person, to the laboratory, or other organizational elements. To simplify the Chain-of-Custody Record and eliminate potential litigation problems, as few people as possible should have custody of the samples or physical evidence during the investigation. This form shall not be used to document the collection of split samples where there is a legal requirement to provide a receipt for samples (see Section 3.4). The Chain-Of-Custody Record also serves as a sample logging mechanism for the laboratory sample custodian. A Chain-of-Custody Record will be completed for all samples or physical evidence collected. A separate Chain-of-Custody Record should be used for each final destination or laboratory utilized during the investigation.

The following information must be supplied in the indicated spaces (Figure 3-3) to complete the field Chain-Of-Custody Record.

- The project number.
- The project name.
- All samplers and sampling team leaders (if applicable) must sign in the designated signature block.
- The sampling station number, date, and time of sample collection, grab or composite sample designation, and a brief description of the type of sample and/or the sampling location must be included on each line. One sample should be entered on each line and a sample should not be split among multiple lines.
- If multiple sampling teams are collecting samples, the sampling team leader's name should be indicated in the "Tag No./Remarks" column.
- If the individual serving as the field sample custodian is different from the individual serving as the project leader, the field sample custodian's name and the title of the sample custodian (e.g., Jane Doe, Sample Custodian) should be recorded in the "Remarks" section in the top right corner of the Chain-of-Custody Record. The Remarks section may also be used to record airbill numbers, registered or certified mail serial numbers, or other pertinent information.

- The total number of sample containers must be listed in the "Total Containers" column for each sample. The number of individual containers for each analysis must also be listed. There should not be more than one sample type per sample. Required analyses should be circled or entered in the appropriate location as indicated on the Chain-of-Custody Record.

- The tag numbers for each sample and any needed remarks are to be supplied in the "Tag No./Remarks" column.

- The sample custodian and subsequent transferee(s) should document the transfer of the samples listed on the Chain-of-Custody Record. The person who originally relinquishes custody should be the sample custodian. Both the person relinquishing the samples and the person receiving them must sign the form. The date and time that this occurred should be documented in the proper space on the Chain-of-Custody Record.

- Usually, the last person receiving the samples or evidence should be the laboratory sample custodian or their designee(s).

The Chain-of-Custody Record is a serialized document. Once the Record is completed, it becomes an accountable document and must be maintained in the project file. The suitability of any other form for chain-of-custody should be evaluated based upon its inclusion of all of the above information in a legible format.

If chain-of-custody is required for documents received during investigations, the documents should be placed in large envelopes, and the contents should be noted on the envelope. The envelope shall be sealed and an EPA custody seal placed on the envelope such that it cannot be opened without breaking the seal. A Chain-Of-Custody Record shall be maintained for the envelope. Any time the EPA seal is broken, that fact shall be noted on the Chain-Of-Custody Record and a new seal affixed. The information on the seal should include the sample custodian's signature or initials, as well as the date.

Physical evidence such as video tapes or other small items shall be placed in Zip-Loc® type bags or envelopes and an EPA custody seal should be affixed so that they cannot be opened without breaking the seal. A Chain-Of-Custody Record shall be maintained for these items. Any time the EPA seal is broken, that fact shall be noted on the Chain-of-Custody Record and a new seal affixed. The information on the seal should include the sample field custodian's signature or initials, as well as the date.

EPA custody seals can be used to maintain custody of other items when necessary by using similar procedures as those previously outlined in this section.

Samples should not be accepted from other sources unless the sample collection procedures used are known to be acceptable, can be documented, and the sample chain-of-custody can be established. If such samples are accepted, a standard sample tag containing all relevant information and the Chain-Of-Custody Record shall be completed for each set of samples.

3.3.4 Transfer of Custody with Shipment

- Samples shall be properly packaged for shipment in accordance with the procedures outlined in Appendix D.

- All samples shall be accompanied by the Chain-Of-Custody Record. The original and one copy of the Record will be placed in a plastic bag inside the secured shipping container if samples are shipped. When shipping samples via common carrier, the "Relinquished By" box should be filled in; however, the "Received By" box should be left blank. The laboratory sample custodian is responsible for receiving custody of the samples and will fill in the "Received By" section of the Chain-of-Custody Record. One copy of the Record will be retained by the project leader. The original Chain-of-Custody Record will be transmitted to the project leader after the samples are accepted by the laboratory. This copy will become a part of the project file.

- If sent by mail, the package shall be registered with return receipt requested. If sent by common carrier, a Government Bill of Lading (GBL) or Air Bill should be used. Receipts from post offices, copies of GBL's, and Air Bills shall be retained as part of the documentation of the chain-of-custody. The Air Bill number, GBL number, or registered mail serial number shall be recorded in the remarks section of the Chain-Of-Custody Record or in another designated area if using a form other than that shown in Figure 3-2.

3.4 Receipt for Samples Form (CERCLA/RCRA/TSCA)

3.4.1 Introduction

Section 3007 of the Resource Conservation and Recovery Act (RCRA) of 1976 and Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) of 1980 require that a "receipt" for all facility samples collected during inspections and investigations be given to the owner/operator of each facility before the field investigator departs the premises. The Toxic Substances Control Act (TSCA) contains similar provisions.

3.4.2 Receipt for Samples Form

The Receipt for Samples form (Figure 3-4) is to be used to satisfy the receipt for samples provisions of RCRA, CERCLA, and TSCA. The form also documents that split samples were offered and either "Received" or "Declined" by the owner/operator of the facility or site being investigated. The following information must be supplied and entered on the Receipt for Samples form.

- The project number, project name, name of facility or site, and location of the facility or site must be entered at the top of the form in the indicated locations.

- The sampler(s) must sign the form in the indicated location. If multiple sample teams are collecting samples, the sample team leader's name should be indicated in the "EPA Sample Tag No.'s/Remarks" column.

- Each sample collected from the facility or site must be documented in the sample record portion of the form. The sample station number, date and time of sample collection, composite or grab sample designation, whether or not split samples were collected (yes or no should be entered under the split sample column), the tag numbers of samples collected which will be removed from the site, a brief description of each sampling location, and the total number of sample containers for each sample must be entered.

- The bottom of the form is used to document the site operator's acceptance or rejection of split samples. The project leader must sign and complete the information in the "Split Samples Transferred By" section (date and time must be entered). If split samples were not collected, the project leader should initial and place a single line through "Split Samples Transferred By" in this section. The operator of the site must indicate whether split samples were received or declined and sign the form. The operator must give their title, telephone number, and the date and time they signed the form. If the operator refuses to sign the form, the sampler(s) should note this fact in the operator's signature block and initial this entry.

The Receipt for Samples form is serialized and becomes an accountable document after it is completed. A copy of the form is to be given to the facility or site owner/operator. The original copy of the form must be maintained in the project files.

3.5 Field Records

PERFORMANCE OBJECTIVE:

- To accurately and completely document all field activities.

Each project should have a dedicated logbook. The project leader's name, the sample team leader's name (if appropriate), the project name and location, and the project number should be entered on the inside of the front cover of the logbook. It is recommended that each page in the logbook be numbered and dated. The entries should be legible and contain accurate and inclusive documentation of an individual's project activities. At the end of all entries for each day, or at the end of a particular event if appropriate, the investigator should draw a diagonal line and initial indicating the conclusion of the entry. Since field records are the basis for later written reports, language should be objective, factual, and free of personal feelings or other terminology which might prove inappropriate. Once completed, these field logbooks become accountable documents and must be maintained as part of the official project files. All aspects of sample collection and handling, as well as visual observations, shall be documented in the field logbooks. The following is a list of information that should be included in the logbook:

- sample collection equipment (where appropriate);

- field analytical equipment, and equipment utilized to make physical measurements shall be identified;

- calculations, results, and calibration data for field sampling, field analytical, and field physical measurement equipment;

- property numbers of any sampling equipment used, if available;

- sampling station identification;
- time of sample collection;
- description of the sample location;
- description of the sample;
- who collected the sample;
- how the sample was collected;
- diagrams of processes;
- maps/sketches of sampling locations; and
- weather conditions that may affect the sample (e.g., rain, extreme heat or cold, wind, etc.)

3.6 Document Control

The term document control refers to the maintenance of inspection and investigation project files. All project files shall be maintained in accordance with Divisional guidelines. All documents as outlined below shall be kept in project files. Investigators may keep copies of reports in their personal files, however, all official and original documents relating to inspections and investigations shall be placed in the official project files. The following documents shall be placed in the project file, if applicable:

- request memo from the program office;
- copy of the study plan;
- original Chain-Of-Custody Records and bound field logbooks;
- copy of the Receipt for Sample forms;
- records obtained during the investigation;
- complete copy of the analytical data and memorandums transmitting analytical data;
- official correspondence received by or issued by the Branch relating to the investigation including records of telephone calls;
- photographs and negatives associated with the project;
- one copy of the final report and transmittal memorandum(s); and
- relevant documents related to the original investigation/inspection or follow-up activities related to the investigation/inspection.

Under no circumstances are any inappropriate personal observations or irrelevant information to be filed in the official project files. The project leader shall review the file at the conclusion of the project to insure that it is complete.

3.7 Disposal of Samples or Other Physical Evidence

Disposal of samples or other physical evidence obtained during investigations is conducted on a case-by-case basis. Before samples which have been analyzed are disposed, laboratory personnel shall contact the project leader or his/her supervisor in writing, requesting permission to dispose of the samples. The samples will not be disposed of until the project leader or his/her supervisor completes the appropriate portions of the memorandum, signs, and returns the memorandum to the laboratory, specifically giving them permission to dispose of the samples. Personnel should check with the EPA Program Office requesting the inspection or investigation before granting permission to dispose of samples or other physical evidence. The following general guidance is offered for the disposal of samples or other physical evidence:

- No samples, physical evidence, or any other document associated with a criminal investigation shall be disposed without written permission from EPA's Criminal Investigations Division.

- Internal quality assurance samples are routinely disposed after the analytical results are reported. The laboratory does not advise the Quality Assurance Officer of the disposal of these samples.

- Samples associated with routine inspections may be disposed following approval from the project leader.

After samples are disposed, the laboratory shall send the sample tags to the Field Equipment Center (FEC) coordinator. These sample tags are accountable and must be placed and maintained in official files at the FEC.

3.8 Field Operations Records Management System (FORMS)

FORMS is a computer program designed to streamline the documentation required by ESD and/or the Contract Laboratory Program (CLP) for sample identification and chain-of-custody. Once the appropriate information is entered into the computer, FORMS will generate stick-on labels for the sample tags, sample containers (CLP), and field logbooks, and will generate the sample receipt and chain-of-custody reports for the appropriate laboratory. The advantages to this system include faster processing of samples and increased accuracy. Accuracy is increased because the information is entered only once, and consequently, consistent from the log book to the tags, bottle labels, and chain-of-custody forms. Operating instructions are available for use with the FORMS program.

FIGURE 3-1
SAMPLE TAG

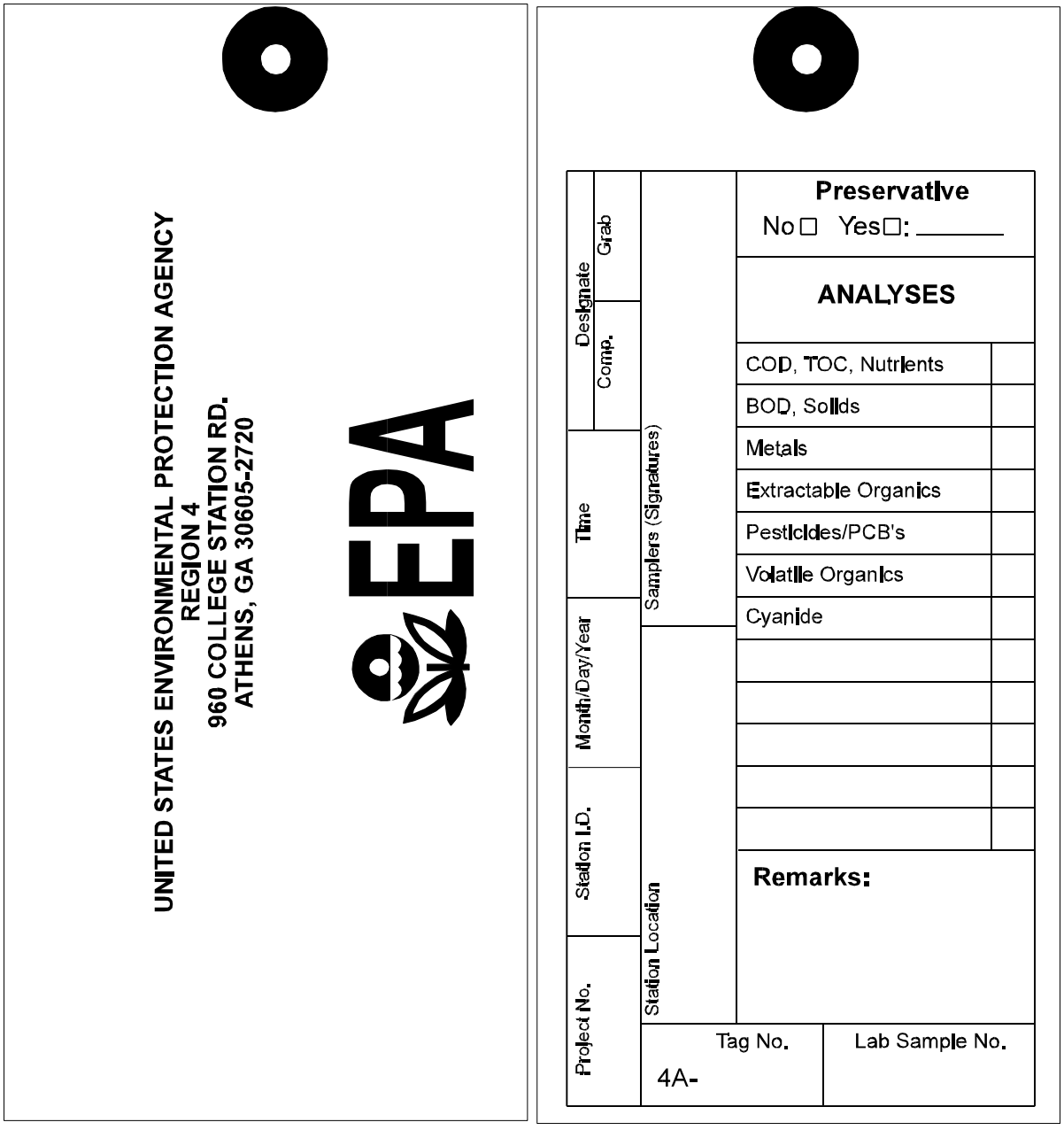
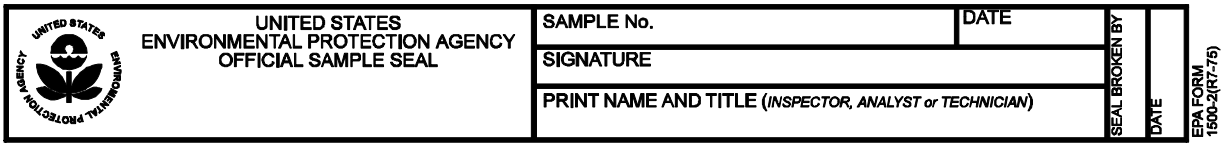


FIGURE 3-2
EPA CUSTODY SEAL



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960 COLLEGE STATION ROAD
ATHENS, GEORGIA 30605-2720

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT LEADER	REMARKS
PROJECT NAME/LOCATION		

SAMPLE TYPES
1. SURFACE WATER
2. GROUND WATER
3. POTABLE WATER
4. WASTEWATER
5. LEACHATE
6. SOIL/SEDIMENT
7. SLUDGE
8. WASTE
9. AIR
10. FISH
11. OTHER_____

SAMPLERS (SIGN)

CIRCLE/ADD parameters desired. List number of containers submitted.

STATION NO.	SAMPLE TYPE	19__ DATE	TIME	COMP	GRAB	STATION LOCATION/DESCRIPTION	TOTAL CONTAINERS	ANALYSES: COD, TOC, NUTRIENTS	BOD, TOC	METALS	EXT ORG/PEST/PCBs	VOA	CYANIDE	TAG NO./REMARKS	LAB USE ONLY

RELINQUISHED BY: (PRINT) / (SIGN)	DATE/TIME	RECEIVED BY: (PRINT) / (SIGN)	RELINQUISHED BY: (PRINT) / (SIGN)	DATE/TIME	RECEIVED BY: (PRINT) / (SIGN)
RELINQUISHED BY: (PRINT) / (SIGN)	DATE/TIME	RECEIVED BY: (PRINT) / (SIGN)	RELINQUISHED BY: (PRINT) / (SIGN)	DATE/TIME	RECEIVED BY: (PRINT) / (SIGN)

DISTRIBUTION: White and Pink copies accompany sample shipment to laboratory: Pink copy retained by laboratory
White copy is returned to samplers; Yellow copy retained by samplers

*U.S. GPO 1989-732 0 186

4-17906 (10/89)

FIGURE 3-3
CHAIN-OF-CUSTODY FORM

US EPA REGION 4
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ATHENS, GEORGIA 30605-2720

RECEIPT FOR SAMPLES

PROJECT NO.	PROJECT NAME	NAME & LOCATION OF FACILITY/SITE
SAMPLERS: (SIGNATURE)		

STATION NO.	19__ DATE	TIME	COMP	GRAB	STATION LOCATION/DESCRIPTION	NO. OF EPA CONTAINERS	SPLIT SAMPLES Y OR N	EPA SAMPLE TAG NO.S/REMARKS

SPLIT SAMPLES TRANSFERRED BY: (PRINT)	DATE	SPLIT SAMPLES RECEIVED BY ☐ OR DECLINED BY ☐ (PRINT)	DATE/TIME
(SIGN)	TIME	(SIGN)	TELEPHONE
		(TITLE)	

DISTRIBUTION: Original to Coordinator Field Files: Copy to Facility/Site Representative

*U.S. GOVERNMENT PRINTING OFFICE: 1990-531-617 (12/89)

No. 4 4609

FIGURE 3-4
RECEIPT FOR SAMPLES FORM